CEREAL RUST BULLETIN

Report No. 6
June 19 2014

Issued by:

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Reports from this list as well as all Cereal Rust Bulletins are maintained on the CDL website (*http://www.ars.usda.gov/mwa/cdl*)

- Wheat stem rust was found in a nursery in southeastern Nebraska.
- Wheat leaf rust was found in plots in Michigan and Minnesota.
- High incidence and severities of wheat leaf rust were found in east central Illinois.
- Low levels of wheat stripe rust were observed in fields in eastern Colorado.

For original, detailed reports from our cooperators and CDL staff, please visit the Cereal Rust Situation (CRS) reports page on the CDL website or click the CRS links found throughout the bulletin. The cereal rust observation maps (Maps) can also be found on the CDL website.

Significant rainfall occurred in many areas of the Great Plains and to the east the past week. The widespread rain hampered winter wheat harvest in the South and limited fieldwork.

The winter wheat crop was 92% headed or beyond by June 15, two points ahead the 5-year average. Sixteen percent of the U.S. winter wheat crop was harvested. Ninety one percent of the spring wheat crop had emerged, slightly ahead of the 5-year average.

Ninety six percent of the spring oat crop had emerged by June 15, two points behind the 5-year average. Forty five percent of the national oat crop was at or beyond heading, five points behind the 5-year average. Planting delays have limited oat crop development in Minnesota and Wisconsin. The spring barley crop was 92% slightly ahead of the 5-year average.

Wheat stem rust. Stem rust was found on two lines in a wheat nursery at Lincoln in southeastern Nebraska on June 13. Wheat was at the hard dough stage. To date wheat stem rust has only been reported in five nursery locations in the U.S. this season, i.e. in Texas, Louisiana, North Carolina and Nebraska (see CRS). Race QFCSC, the most commonly identified wheat stem rust race in recent years, was identified from collections made at Weslaco.

Wheat leaf rust. Leaf rust was at extremely low levels and not widespread in Kansas while very low levels were found in a few locations in south central Nebraska. In early and mid-June leaf rust was found in Michigan and Minnesota nurseries, respectively. Drought conditions in Oklahoma, Kansas and Nebraska greatly limited rust development and inoculum production. In the Southeast and mid-Atlantic areas wheat leaf rust was more widespread, but generally at low levels with the exception of higher severities noted on the cultivar Shirley at some locations.

Kansas – Persistent drought and high temperatures were not conducive for wheat or rust development in the state this season. Other than low levels of wheat leaf rust observed in plots in northeastern Kansas, wheat leaf rust has not been reported in the state. Widespread showers the second week of June arrived too late for the wheat crop, but delayed harvest (2% complete by June 15).

Nebraska – Wheat leaf rust, at trace to low incidence with severities up to 30% on flag leaves, was found in plots at Lincoln in southeastern Nebraska on June 10. Previously, very little leaf rust was found in fields in south central areas of the state. A majority of the fields were drought stressed (see CRB #5).

Illinois – In the last week wheat leaf rust at high incidence and severity was found on some cultivars in Champaign County in east central Illinois. The rust likely developed too late to cause yield reductions. Wheat leaf rust was found in a few plots at the Brownstown Research Farm in Fayette County in south central Illinois on June 6. No rust was found in surveys of Saline, Gallatin, White, Wayne and Clay Counties the week of June 2.

Minnesota – A single pustule of wheat leaf rust was found in a winter wheat nursery at St. Paul in southeastern Minnesota on June 18. Heavy rains have been common in Minnesota the last few weeks with many areas receiving record precipitation totals.

Michigan – Wheat leaf rust, at low severity in the lower canopy, was found in a nursery at Mason in south central Michigan on June 5. Wheat had finished flowering with earliest lines at milk growth stage.

Georgia – Wheat leaf rust was observed on an early planted, highly susceptible cultivar at Plains in southwestern Georgia in mid-May. Leaf rust was found in only a few commercial fields this season. The widespread use of fungicides and a long cool spring impacted wheat leaf rust development in the state. Seventy nine percent of the wheat in the state was harvested by June 15.

Kentucky – There have been no new reports from the state since the last bulletin when wheat leaf rust was reported as widespread, but generally at low severity levels, in western Kentucky (see CRB #5).

Tennessee – Wheat leaf rust was found in plots at Jackson in western Tennessee in early June. Wheat in the state was generally disease free this spring.

North Carolina – There have been no reports from the state since the last bulletin. Previously, leaf rust had increased in plots in eastern North Carolina in late May and plots of DG Shirley had higher levels of leaf rust severity than in past years (see CRB #5). By June 15, 33% of the wheat crop was harvested.

Virginia – Low levels of wheat leaf rust were found in plots at Blacksburg in western Virginia on June 6. Previously, wheat leaf rust, at low incidence and severity, was found in a nursery in eastern Virginia the third week of May. By June 15, 29% of the wheat crop was harvested.

Wellington County, Ontario – A few pustules of wheat leaf rust were observed in variety plots in the Palmerston area in southern Ontario on June 18 (see CRS for full report from Albert Tenuta and Peter Johnson). This was the first report of wheat leaf rust in the province ion 2014. Winter wheat is in grain filling stage. The extreme winter caused significant damage to the winter wheat crop resulting in about 10% of the crop being replanted or areas reseeded.

Wheat leaf rust map. *Please visit:* http://www.ars.usda.gov/Main/docs.htm?docid=9757.

Wheat cultivar *Lr* gene postulation database. *Please visit*: Leaf rust resistance gene postulation in current U.S. wheat cultivars.

Wheat stripe rust.

Kansas – There have been no new reports from the state since the last bulletin. Previously, a large stripe rust focus was found in plots of 2137 in northeastern Kansas in late May. Wheat harvest has begun in the state.

Colorado – Stripe rust, at low levels, was found in two commercial fields in Weld County in eastern Colorado in early June.

Virginia – There have been no new reports from the state since the last bulletin. Previously, the only report of stripe rust in the state was of one small wheat stripe rust focus found in a nursery in eastern Virginia on June 3.

Oregon – There have been no new reports from the state since the last bulletin. Previously, low levels of stripe rust were reported in commercial winter wheat fields and plots in northeastern Oregon and stripe rust disease pressure was low in the western part of the state (see CRS).

Washington – There have been no new reports from the state since the last bulletin. Previously, very low levels of stripe rust were reported in commercial fields (see CRB #5). Generally, stripe rust disease pressure was low in eastern Washington in late May. Stripe rust had reached 80% severity on susceptible winter wheat checks in plots at Mount Vernon in northwestern Washington by late April.

Idaho – There have been no new reports from the state since the last bulletin. Previously, stripe rust was reported in a field of the cultivar Brundage in south central Idaho in late May and one pustule was found in a nursery in northwestern Idaho on May 21 (see CRB #5).

Montana – There have been no new reports from the state since the last bulletin. Wheat stripe rust was previously reported on the cultivar Yellowstone in the Hardin area south central Montana in late May (see CRB #5).

Please send wheat and barley stripe rust collections as soon as possible after collection to:

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***Note**:* Stripe rust collections are vulnerable to heat and do not survive long at warm temperatures; therefore, if shipment of collections for race identification is delayed their viability will be greatly reduced. An overnight courier service is preferred for sending stripe rust collections.

Wheat stripe rust map. *Please visit:* http://www.ars.usda.gov/Main/docs.htm?docid=9757.

Oat stem rust. There have been no new reports of oat stem rust since the last bulletin. Previously, oat stem rust was reported in Louisiana and central and southeastern Texas.

Oat crown rust. Trace levels of oat crown rust were found on spring oat in a plot at Ithaca in south central New York on June 17. Previously, oat crown was reported in Texas, Florida, Louisiana and Georgia in 2014 (see CRS).

Oat crown rust map. *Please visit:* http://www.ars.usda.gov/Main/docs.htm?docid=9757.

Barley stem rust. Not yet reported in the U.S. this year.

Barley leaf rust. There have been no new reports of barley leaf rust since CRB #4. Barley leaf rust, at moderate prevalence and severity, was observed in nurseries at Warsaw and Painter in eastern Virginia and at high prevalence and severity in western Virginia in mid-late May. Barley leaf rust was also found in plots in northwestern Washington in late March (see CRS).

Barley leaf rust map. *Please visit:* http://www.ars.usda.gov/Main/docs.htm?docid=9757.

Rust on barberry. There have been no new reports of rust on barberry since the last bulletin when moderate amounts of early aecial infection were reported on common barberry (*Berberis vulgaris*) in Dane County in south central Wisconsin and light amounts of early aecial infection were reported in southeastern Minnesota.

Rust on buckthorn. Crown rust infections were particularly severe on common buckthorn **(***Rhamnus cathartica*) at the University of Minnesota Southwest Research and Outreach Center at Lamberton in southwestern Minnesota in early June. The infections had nearly defoliated some branches. Previously, crown rust aecia were first observed on buckthorn in Ithaca, New York on May 16 and were prevalent on buckthorn in central New York the fourth week of May. Common buckthorn **(***Rhamnus cathartica*) is the alternate host for oat crown rust.